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ABSTRACT

According to a recent model of some of the causes and effects of alcohol consumption, alcohol interferes with cognitive processes fundamental to a state of self-awareness. The effects of alcohol consumption and the expectancy that one had consumed alcohol on the self-awareness state were examined. Male subjects (N=46) consumed either alcohol or tonic and were informed that they had consumed either alcohol or tonic. They then gave short speeches about themselves. These speeches were coded for frequency of self-focused statements and frequency of first person pronouns. Results indicated that alcohol reduced the relative frequency of self-focused statements and self-relevant pronouns. Expectancy that one had consumed alcohol had a marginal effect of increasing self-focused statements and no effect on self-relevant pronouns. These results provide additional support for the self-awareness model of alcohol use. (Author/NRB)

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# The Self-Awareness Reducing Effects of Alcohol Consumption

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Running head: Alcohol and Self-Awareness

The Self-Awareness Reducing Effects of Alcohol Consumption

According to a recent model of some of the causes and effects of alcohol consumption (Hull, 1981), alcohol interferes with cognitive processes fundamental to a state of self-awareness. Insofar as self-awareness is associated with socially appropriate forms of behavior, alcohol consumption is proposed to decrease socially appropriate behaviors. Insofar as self-awareness is associated with negative self-evaluation following failure, alcohol consumption is proposed to decrease negative self-evaluations following failure. As a consequence of this latter effect, alcohol may be consumed for its specific effect of decreasing self-awareness following failure in order to avoid negative self-reactions.

Support for the proposition that subjects drink in order to reduce self-awareness in the face of personal failure was found in a recent longitudinal study of alcoholic relapse conducted by Hull, Young, and Swank (1981). Among individuals high in dispositional self-awareness who had recently experienced life events indicative of personal failure, 70% reported returning to pre-abstinence levels of drinking within three months of release from the detoxification program. Among high self-aware individuals who experienced life events indicative of personal success, this figure was only 14%. As predicted, personal success and failure had little impact on the relapse rates of low self-aware individuals: 40% (success) and 38% (failure) reported drinking at or beyond the preabstinence level within the three month period.

Despite the importance of these findings, they do not explicitly support the proposition that alcohol reduces self-awareness. A study was therefore conducted which attempted to test this hypothesis. As measures of self-awareness previous studies have used (a) relative frequency of first person pronoun usage (Davis & Brock, 1975), and (b) frequency of self-focused responses on the Exner

sentence completion questionnaire (Carver & Scheier, 1978). The present study combined these methods in an open-ended free response format: subjects gave short speeches which were then coded for relative frequency of (a) self-focused statements according to the Exner coding scheme, and (b) first person pronouns. These speeches took place under one of four experimental conditions corresponding to a 2(consume alcohol - consume tonic water) X 2(expect alcohol - expect tonic water) design. Alcohol was predicted to decrease the relative frequency of both self-focused statements and first person pronouns. No explicit predictions were made regarding the expectancy manipulation.

## Method

### Subjects

Forty-six male subjects were chosen from a group of volunteers who responded to an advertisment in the Indiana University campus newspaper offering payment for participation in an experiment involving alcohol consumption. Subjects were asked to complete a series of questionnaires prior to their arrival at the lab, to abstain from eating and drinking alcohol for at least four hours before the experiment, and to refrain from driving themselves to the experiment (taxi service was provided as needed). Subjects were run individually and paid $7.50 for participating.

### Procedure

On arriving at the laboratory, subjects were met by an experimental assistant who recorded weight, height, oral temperature, systolic and diastolic blood pressure, and Blood Alcohol Content (BAC). Each subject then completed a self-report mood inventory (Nowlis, 1965) and signed an informed consent statement.

Administration of beverages. The experimenter removed the appropriate tonic and/or vodka bottles from the refrigerator and gave them to the assistant who was blind to their contents. Subjects, who were randomly assigned to one of four

conditions of expectancy (expect alcohol or expect tonic) and consumption (consume alcohol or consume tonic), watched the assistant measure the beverages into a graduated cylinder. The contents of the bottles corresponded to the four conditions to which subjects were assigned as follows: (a) Expect alcohol - Consume alcohol: subjects observed the assistant measure Popov's 80-proof vodka (1 g ethanol per kg body weight) from a vodka bottle and add four times the amount of Sunrise tonic from a tonic bottle (we had previously determined that subjects could not reliably detect the presence of vodka at this dilution); (b) Expect alcohol - Consume tonic: the procedure was identical to that of Condition A except that the vodka bottle actually contained decarbonated tonic; (c) Expect tonic - Consume alcohol: subjects observed the assistant measure an appropriate amount of liquid from a tonic bottle that actually contained 1 part vodka to 4 parts tonic; (d) Expect tonic - Consume tonic: the procedure was identical to that of Condition C except that the tonic bottle contained only tonic.

In all conditions, a squirt of lime juice was added to the beverage, which was then divided into three glasses. Regardless of condition, the total amount of liquid consumed was in the same proportion to body weight. Each subject was seated in a private room and told he must consume the beverages within 45 minutes. Subjects were given magazines and newspapers to read while drinking the beverages and during the 40-minute absorption period that followed the drinking session. At the end of the absorption period and just prior to entering the experimental chamber, a final Breathalyzer sample was obtained for each subject, but BAC was not computed.

Subjects were escorted to the experimental chamber and seated in a comfortable chair while the experimenter attached a number of electrodes for physiological measurement (the data from these measures has been reported in Levenson, et al. 1980). While the electrodes were being attached, the assistant entered the room

to give bogus feedback about the final BAC reading based on the bottles used to mix the drinks. The assistant, who was blind to the actual BAC reading, stated either: "His BAC is .11, so he's drunk," if part of the beverage had been poured from a vodka bottle, or "His BAC is .00, so he's sober," if the drinks had been poured only from tonic bottles.

Speech instructions. Subjects were told that after about 10 or 15 minutes they would see the number 360 appear on a display in front of them and that the numbers would count down. At that time, they were to pick up a clipboard beside their chairs, read the speech topic, and replace the clipboard. (The topic was "What I like and dislike about my body and physical appearance.") Subjects were told that when the number on the display reached zero, they were to look into a videotape camera, state their name, and begin their speech. They were told to stop talking when the number 9999 appeared on the display (this occurred 3 minutes after the start of the speech.) They were told to try to be as open and honest as possible, that graduate students would rate the videotape for openness, defensiveness, and other psychological variables.

Dependent measures. Subjects' speeches were transcribed verbatim. Individual statements were then coded using the scheme devised by Exner (1973) for use with his self-focused sentence completion questionnaire. According to this scheme, statements can be coded into one of four major categories and two sub-categories: self-focus with a sub-category of negative self-focus; external focus with a sub-category of affect-laden external focus; ambiguous focus; and other (non-focus). Exner (1973) provides both instructions and examples of this coding scheme. In addition to coding speech statements, the total number of words and self-relevant pronouns (I, me, my, myself, mine) was determined. For the purposes of this count, stuttered words were counted as one response. A minimum speech length was set at 100 words and six statements. Data from two

subjects failed to meet this criterion and were excluded from analysis.

## Results

### Statement Analyses

Relative frequencies of statement categories were analyzed as proportions of the total number of statements. In order to avoid overdetermining the data set, ambiguous focus responses were not analyzed.

Self-focused statements. There was a significant main effect of alcohol on relative frequency of self-focused statements, $F(1,40) = 8.29$, $p < .01$, such that consuming alcohol reduced self-focus. In addition, there was an effect of expectation on self-focus, $F(1,40) = 4.03$, $p < .06$, such that the cognition that one had consumed alcohol increased self-focused responses. There were no

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Table 1 about here

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other effects. Separate analysis of the negative self-focus category did not reveal any significant effects, although the means were once again in the predicted direction for alcohol consumption conditions.

Externally-focused statements. There were no significant main effects or interactions of alcohol consumption and expectations on relative frequency of externally-focused or externally-focused affect-laden statements.

Other or Non-focused statements. Both alcohol consumption and expectations had significant main effects on relative frequency of statements coded "other." Alcohol consumption significantly increased, $F(1,40) = 7.90$, $p < .01$, and cognition that one had consumed alcohol decreased, $F(1,40) = 4.70$, $p < .05$, relative frequency of "other" responses. Attempts to illuminate these effects by reclassifying this category into more meaningful sub-categories were unsuccessful.

Word Analyses

Total number of words. There were no significant effects or interactions of alcohol and expectations on total number of words in subjects' speeches.

Self-relevant pronouns. An analysis of the ratio of self-relevant pronouns to total words revealed a marginally significant main effect of alcohol consumption, $F(1,40) = 3.26$, $p = .079$, such that alcohol reduced the relative frequency of these pronouns. Neither the main effect of expectancy nor the interaction of consumption and expectation approached significance (both $Fs < 1.00$).

## Discussion

Alcohol consumption led to a significant decrement in relative frequency of self-focused statements and a marginal decrement in usage of first person pronouns. The results of this study provide additional support for the self-awareness model of alcohol use proposed by Hull (1981). According to this model alcohol reduces self-awareness by interfering with self-relevant encoding processes (cf. Hull & Levy, 1979). A recent study investigated the effects of alcohol on self-relevant encoding processes using the incidental memory paradigm employed by Hull and Levy (1979). Subjects were divided into high and low private self-conscious groups. There were no significant effects of alcohol or self-consciousness on recall of words encoded in terms of non-self-relevant dimensions. However, there was a significant interaction of alcohol and self-consciousness on number of self-relevant words recalled ($p < .02$). Individual comparisons revealed that under placebo conditions high self-conscious subjects recalled significantly more self-relevant words than did low self-conscious subjects ($p < .05$), thus replicating the findings of Hull and Levy (1979). Alcohol significantly reduced the number of self-relevant words recalled by high self-conscious subjects ($p < .05$) and rendered them indistinguishable from the two low self-conscious groups which were not significantly different from each other.

Taken together the results of these studies support the model proposed by Hull (1981) by demonstrating that alcohol decreases the frequency of self-aware responses and that this appears to be mediated by its impact on self-relevant encoding processes. These effects are due to the drug itself and are not dependent upon expectancies regarding alcohol consumption. Given the weak, conflicting findings of expectancy, conclusions about that variable must be reserved until additional research can be conducted.

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Table 1

The Effects of Alcohol on Relative Frequency of

Speech Statements and First Person Pronouns

| Experimental Design | | Proportion of Speech Statements | | | Word Proportions |
|---|---|---|---|---|---|
| Consume | Expect | Self-Focus | External-Focus | Other | Self-Relevant Pronouns |
| Tonic | Tonic | .496 | .010 | .483 | .148 |
| Tonic | Alcohol | .568 | .011 | .401 | .144 |
| Alcohol | Tonic | .331 | .018 | .643 | .122 |
| Alcohol | Alcohol | .455 | .021 | .511 | .129 |